

frequency power source for generating second electromagnetic waves is set at a value in the range from 300 MHz to 600 MHz, respectively,

high frequency bias having a lower frequency either of the first electromagnetic waves and the second electromagnetic waves is applied to a process platform,

the wafer is treated thereon,

two kinds of electronic temperature regions are generated between said wafer facing plane and said wafer,

F (fluorine radicals) and ions corresponding to  $CF_2$  are generated, each amount of said F and said ions is independent from each other, and

an etching treatment is performed in a condition, that said gas pressure in said etching treatment chamber is in the range from 0.1 Pa to 4 Pa.

#### IN THE ABSTRACT

Page 71, "ABSTRACT" section, replace the section with:

An etching method for silicone oxide film by fluorocarbon plasma in semiconductor production, which is superior in precise manufacturing and highly selective to resist and silicone nitride film, includes generating two kinds of electronic temperature regions in plasma, and controlling a generation ratio of  $CF_2/F$  independently from a generation